Brucellosis Among Horses in Shiraz-Iran: A Seroprevalence Study and Control Strategy

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Equine Brucellosis was first identified in the beginning of 20th century. Naturally acquired Brucella infection in horse associated with infected animals. This disease is the cause of economic losses in animal. The brucellosis diagnosis is based on clinical features and the results of laboratory tests like standard tube agglutination test.

One hundred and twenty samples of all animals were taken from 27 villages during January to May 2007 located in southern part of Shiraz-Iran. Serum was tested using Rose Bengal (RBT) and tube agglutination test (TAT) by 2-ME. A questionnaire animal owner was carried out for risk factors. These included land tenure horse with other animal, sources of water, and the presence of animals from different places.

The seroprevalence of brucellosis varied significantly from a low (0%) to a high (12%) in various parts of the state. The study also investigated the prevalence of horse population in different districts. A correlation and regression analysis was carried out for prevalence of disease in various districts in relation to the horse population in these districts. There is no correlation between disease and horse population ($P = 0.6$). In our study 10 serum sample had positive results in both the RBT and TAT. These results demonstrated that horse is not a reservoir of brucellosis at least in the southern region of Iran. Nearly every cases of human brucellosis have an animal origin and, therefore, control is primarily a veterinary responsibility. Even after more than a century for the first description, no major country has been able to eradicate the disease. Although test and slaughter is a strategy program for eradication. In conclusion, when the disease existence in horse, which is not as a reservoir, it is concern for human public health. According to the results obtained, it was concluded that vaccination is important and should be continued fastidiously for animals.

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Prevalence of Brucellosis in Equines of Mashhad-Iran

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Brucella which preferently infects cattle, swime, sheep and goat. They can infect the equine according to animal host. Equines brucellosis always has found in clinical cases, but there are no many epidemiologic patterns. Studies relation to brucellosis has focused on cattle, sheep, and goats. However, some epidemiological surveys have been carried out to investigation of no domesticated ruminants, such as horse.

From January to May 2007, 120 horses were screened for brucella infections in Mashhad-Iran by the Rose Bengal and Tube Agglutination Test (RBT, TAT). Blood samples were obtained by venous puncture and transferred to the laboratory under child conditions as soon as possible.

Sera from three horses were found positive by RBT and TAT, therefore the prevalence rate (PR) is 2.5 percent. The sample from two stallions that gave a positive reaction in the RBT also had a positive result in the TAT (PR: 2.6%). The positive stallions had no clinical signs related to brucellosis. Just one mare had positive reaction with both test without any clinical sign (PR: 2.3%).

In country of Iran, brucellosis was reported in almost all domestic animals, particularly cattle, sheep and goats. Close contact between horses that affect from brucellosis such as cattle, sheep and goat and susceptible hosts constitutes a potential dispersion method for the organism. Although in our study three serum sample had positive results in both the RBT and TAT, the results were considered in epidemiologic analyses were carried out in other horses in the same environmental conditions.

In some countries, the test and slaughter policy together with the vaccination of young females is adopted, in others, particularly with regard to sheep and goats; mass vaccination has been recently started. The zoonotic aspects of brucellosis from horse must, therefore, be considered so, the disease is important from the public health standpoint.

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Prevalence and Distribution of Peste Des Petits Ruminants Virus Infection in Small Ruminants

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Peste des petits ruminants (PPR) is an acute febrile viral disease of small ruminants characterized by muco-purulent

nasal and ocular discharges, necrotizing stomatitis, enteritis and pneumonia. The disease is endemic in Pakistan causes heavy economic losses due to high rates of mortality and morbidity. The present study was conducted in view of determining the disease situation in different geographical regions, seasons, age, sex groups and species of small ruminants. A total of 933 serum were collected from the Southern, Northern, Western, Eastern and Central parts of Punjab province. Samples were collected from the animals suffering from diarrhea and showing severe respiratory signs. Serum samples were used for the detection of antibodies against PPRV by applying competitive Enzyme linked immunosorbent Assay. Based on the screening of the 933 sera samples, the antibody prevalence of PPRV in small ruminants in Punjab was 51.33% ($P = 0.432$). The frequency of antibodies against PPR recorded was 67.65%, 71.11% and 60.23% in the months of December, January and February and 50.67%, 53.0% in the months of September and October. The higher numbers of positive cases were observed in Southern and Western districts of Punjab province, compared to other parts of the Province.

A greater proportion of the sheep (56.80%) versus the goat (48.24%) population was found to be infected with PPRV ($P = 0.011$). The distribution and prevalence of antibodies to PPRV among various age groups of animals indicated that the higher prevalence (72.86%) occurred at >2 years compared with the other age groups.

It was found that PPR has high frequency (59.24%) in females than males (41.18%) of sheep and goat ($P = 0.000$). These findings may be correlated with variations in the sheep and goat husbandry practices within different geographic regions, the topography of different states and the socio-economic status of individual farmers.

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Runting and Stunting Syndrome in Broiler Chicks in Nigeria

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Runting and Stunting Syndrome (RSS) is characterized by poor growth rate in chickens. It is a transmissible disease of uncertain aetiology although a virus is now believed to be involved. The syndrome affects chickens in the first week of life causing considerable economic losses due to reduced feed conversion efficiency and culling.

In our investigation two farms A&B were used. The growth retardation observed in both farms ranged between 5—40% and chicks from both farms were of the Anak breed. A total of 90 broiler chicks were collected from the two farms, 45 from each. Chicks were examined clinically before euthanasia using chloroform inhalation followed by complete post mortem examination. The average weight of runts in farm A at one week was 40.27 ± 4.71 g and that of normal chicks 63.83 ± 6.63 g. At 3 weeks, runts weighed 106.35 ± 35.95 g, normal chicks 269.79 ± 22.90 g and at 6 weeks, 376.74 ± 88.88 g for runts and 629.75 ± 149.83 g for normal chicks. In farm B, the average weight of runts at one week was 89.11 ± 10.56 g, compared to 128.38 ± 16.06 g for normal chicks. The weight at 3 weeks was 143.71 ± 20.13 g for runts and 524.68 ± 43.25 g for normal chicks. At 6 weeks, runts weighed 246.57 ± 111.75 g, while normal chicks weighed 1355.65 ± 180.17 g.

Clinically, runts showed helicopter feathering, had voracious appetite and voided large amount of feaces. Gross pathology of runts include marked atrophy of the thymus, spleen, pancreas and bursa of Fabricius. The proventricular wall was thickened and the colon distended. Histology revealed moderate thymic degeneration with fibrosis and enteritis with villous atrophy. There was moderate necrosis of pancreatic islet and lymphoid follicles of the bursa of Fabricius. A few pathogenic bacteria including *Escherichia coli*, *Salmonella gallinarum*, *Streptococcus faecalis* and *Klebsiella pneumoniae* were isolated from the intestine of chicks. Virological examination of tissues from runts was not positive. The observed lesions are considered to be responsible for the poor growth performance of the runts.

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Date Palm Sap Collection: Exploring Opportunities to Prevent Nipah Transmission

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Background: Nipah virus infection is a seasonal disease in Bangladesh that coincides with the date palm sap collection season. One Nipah virus outbreak study in 2005 identified date palm sap as a vehicle of transmission where drinking fresh, raw date palm sap was the sole exposure significantly associated with illness. The aims of our study are to understand the date palm sap collection procedure and to identify the existing techniques to prevent bats from accessing date palm sap.

Method: In February 2007, a qualitative study, including indepth interviews with date palm sap collectors (gachi) and observation of existing local preventative techniques, was done in six villages from three districts in Bangladesh where Nipah outbreaks have occurred.

Result: Date palm sap collection constitutes the livelihood of a number of gachis during the cold season. Bats are one of several nuisances to gachis in date palm sap collection. Other nuisances include bees, hornets, birds, rats, dogs and foxes. All of them drink the sap and occasionally spoil the contents of the collection jar with urine and feces which markedly reduces the value of the sap. Birds and animals also occasionally break the jar. Gachis sometimes use techniques such as covering the shaved part of the tree and pot with bamboo net, tree branches, thorns and a piece of cloth to prevent pests from spoiling the date palm juice so that it may be sold at a higher price. However they do not use them consistently because the application of any technique consumes additional time and resources.

Conclusion: Gachis occasionally use techniques to keep bats and other pests accessing date palm sap. Further studies to explore which interventions effectively prevent bat